

REMARKS

Applicants respectfully request reconsideration of the above-identified application in view of the foregoing amendments and the following remarks.

In the April 1, 2004 Office Action, the Examiner noted that claims 1-9 were rejected. By this Amendment, claims 1, 4, 8 and 9 amended and claim 5 is cancelled. Support for the amendatory material of claims 1, 8 and 9 can be found at paragraph [0017] of Applicants' specification. Support for the amendatory material of claim 4 can be found at paragraph [0037] of Applicants' specification. Applicants believe that claims 1-9 are in condition for allowance. The Examiner's rejections are respectfully traversed below.

Rejection Under 35 U.S.C. § 102(b) - Symons

In the April 1, 2004 Office Action, the Examiner rejected claims 1, 2, 3 and 9 under 35 U.S.C. § 102(b) as being anticipated by Symons (U.S. Patent No. 5,309,690).

Symons discloses a composite panel comprising first and second sheets of a natural fibre material, a cellular core of a natural fibre material sandwiched between and adhered to the first and second sheets, and a filler composition located in all of the cells of the core, said filler composition comprising a mixture of an inorganic insulating material and a material which releases water at elevated temperatures. *Col. 1, Ins. 30-43*. The inorganic insulating material is preferably selected from the group consisting of, *inter alia*, exfoliated vermiculite, expanded perlite and expanded clay. *Col. 5, Ins. 12-18*.

The present invention is drawn to a phenolic resin composite material comprising a phenolic resin, a filler dispersed in the phenolic resin, and an organized layered clay mineral

comprising a layered clay mineral which is organized by an organic onium ion, wherein said organized layered clay mineral is dispersed uniformly in the phenolic resin. *See, e.g., claim 1.*

Symons does not disclose an organized layered clay mineral comprising a layered clay mineral which is organized by an organic onium ion, as required by Applicants' claims. Thus, Applicants respectfully request withdrawal of the rejection of claims 1, 2, 3 and 9 under 35 U.S.C. § 102(b).

Rejection Under 35 U.S.C. §103(a) – Juenger

In the Office Action, the Examiner rejected claims 1-3, 5-7 and 9 for obviousness under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,830,894 (Juenger).

Juenger discloses phenol resin foam materials and a process for the preparation of filled phenol resin foam materials containing a skeleton-like mass of particulate filler material. *Col. 1, lns. 15-20.* Examples of filler materials include vermiculite, exfoliated clay and mica. *Col. 2, lns. 28-41.*

The present invention is drawn to a phenolic resin composite material comprising a phenolic resin, a filler dispersed in the phenolic resin, and an organized layered clay mineral comprising a layered clay mineral which is organized by an organic onium ion, wherein said organized layered clay mineral is dispersed uniformly in the phenolic resin. *See, e.g., claim 1.*

However, Juenger neither teaches nor suggests the inclusion of an “organized layered clay material comprising a layered clay mineral which is organized by an organic onium ion” in its filled phenol resin foam materials. Applicants' claims require an “organized layered clay material comprising a layered clay mineral which is organized by an organic onium ion.” Thus,

Juenger cannot render obvious Applicants' claims 1-3, 5-7 and 9. Accordingly, withdrawal of this rejection is respectfully requested.

Rejection Under 35 U.S.C. §103(a) – Juenger in view of Ross

In the Office Action, the Examiner rejected claims 4 and 8 for obviousness under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,830,894 (Juenger) in view of U.S. Patent No. 6,610,770 B1 (Ross).

Juenger discloses phenol resin foam materials and a process for the preparation of filled phenol resin foam materials containing a skeleton-like mass of particulate filler material suitable as a homogeneous construction material wherein the interspaces between the filler are filled with the phenolic resin foam. *Col. 1, Ins. 15-20*. Examples of filler materials include glass fibers, wood shavings, vermiculite, exfoliated clay and mica. *Col. 2, Ins. 28-41*. Juenger requires "at least a major proportion of the interspaces or cavities between the filler material will be filled with foamable phenolic resin prior to the foaming operation, *i.e.*, about 80% or more." *Col. 4, Ins. 10-14*.

Applicants have discovered that when a filler is dispersed in a phenolic resin and when an organized layered clay mineral, which is different from the filler, is uniformly dispersed in the phenolic resin with the filler dispersed therein, it is possible to further improve the heat resistance and the mechanical strength of the resulting phenolic resin composite material. *See paragraphs [0008] and [0012] of Applicants' specification*. Thus, the present invention is drawn to a phenolic resin composite material, comprising a phenolic resin; a filler dispersed in the phenolic resin and being a reinforcement member; and an organized layered clay mineral comprising a layered clay mineral which is organized by an organic onium ion, said organized

layered clay mineral being different from the filler and dispersed uniformly in the phenolic resin wherein said filler and said organized layer clay mineral are included in a summed amount of 75% by mass or less when the entirety is taken as 100% by mass and wherein said layered clay mineral is sodium-montmorillonite and said organic onium ion is octadecyl ammonium ion. *See, e.g., claim 4.*

Juenger does not disclose, teach or suggest such a relationship between a phenolic resin and a filler. Instead, Juenger discloses a skeleton-like mass of particulate filler wherein the interspaces between the filler are filled with 80% or more phenolic resin foam. *Col. 1, lns. 15-20 and col. 4, lns. 10-14.*

Ross does not make up for the deficiencies of Juenger. Ross discloses a composition comprising a polymer system and a smectite clay modified with an organic chemical composition. *Col. 4, lns. 1-5.* Thus, the combination of Juenger with Ross would not render obvious claims 4 and 8.

Accordingly, withdrawal of the Examiner's rejection is respectfully requested.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

AUTHORIZATION

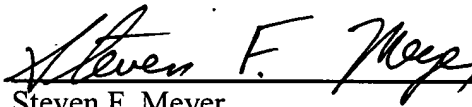
The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4500, Order No. 5000-4985.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 13-4500, Order No. 5000-4985.

Respectfully submitted,
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Dated: May 13, 2004

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